

Loose-Proof Screw for Plastics



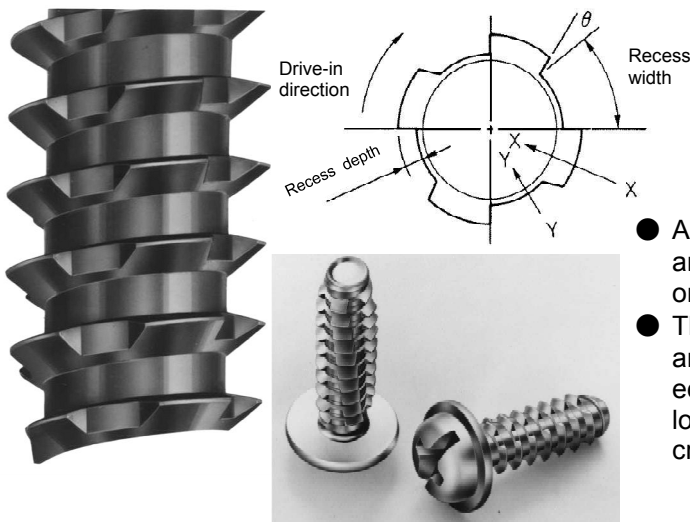
GIZATITE®

 GIZATITE resists loosening due to temperature fluctuation, vibration & stress relaxation.

[Outline of GIZATITE]

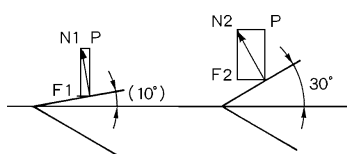
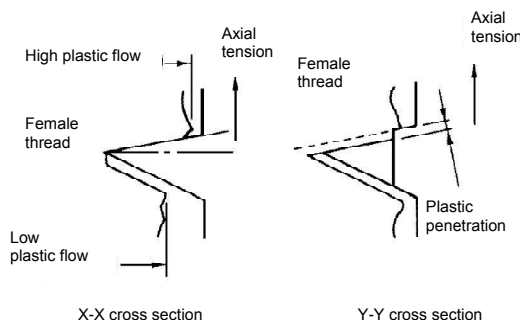
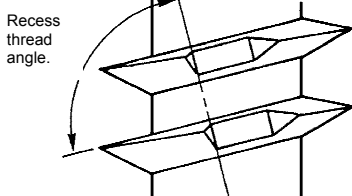
Using conventional self-tapping screws to fasten plastic components has always been a problem. The different expansion rates of metal and plastic eventually cause a fall-off in plastic elasticity around the threads. This causes the clamping force to drop and the screw to loose.

GIZATITE has finally solved the problem through the use of four angular recesses on the circumference of each thread. These recesses provide an area into which the plastic can expand and shrink. **GIZATITE** doesn't lose its bite, and it doesn't loosen. **GIZATITE** is especially effective in applications that encounter severe temperature fluctuations and vibration.



- Asymmetrical flank angle reduces stress on plastic.
- The thread recess and sharp thread edge prevent loosening and cracking of the boss.

- GIZATITE is reusable in the same hole because of its specially designed recess thread angle.



Compared to conventional with symmetrical flank angle. GIZATITE's unique thread needs less force to form internal thread (threading force F) when driven into the workpiece. GIZATITE screws in smoothly and easily without over stressing the plastic.

[Special features]

- Stays tight regardless of temperature changes and stress relaxation.
- Completely resists loosening from vibration.
- Less internal stress than conventional screws.

[Application]

GIZATITE can be used widely for plastics. Especially, you can use GIZATITE screws wherever you need high removal torque due to temperature changes, vibration, and stress relaxation.

Example: In Automotive;
Dash board,
Door mirror,
Air-conditioner,
Meters,
Speakers etc

NITTO SEIKO CO., LTD.

[Performance of GIZATITE]

1. Torque data at different pilot hole diameter

Screw Size : 6X25
 Liner : SPCC t=1.4 mm
 Workpiece : PP + G30%

Unit : N · m

Pilot Hole Dia.		Torque Data			Ave.	TS max.	Drive-to -strip-torque ratio	Proper Tightening Torque : Tf (TS max. × 1.5 ~ TM min. × 0.65)
		1	2	3		TM min.		
φ 5.1	TS	1.75	1.50	1.80	1.68	1.80	4.500	Tf = 2.70 ~ 5.27
	TM	8.10	8.20	8.20	8.17	8.10		
φ 5.2	TS	1.50	1.25	1.40	1.38	1.50	5.100	Tf = 2.25 ~ 4.97
	TM	8.00	7.65	8.00	7.88	7.65		
φ 5.3	TS	1.35	1.35	1.30	1.33	1.35	5.259	Tf = 2.03 ~ 4.62
	TM	7.25	7.30	7.10	7.22	7.10		
φ 5.4	TS	1.00	1.12	1.20	1.11	1.20	5.233	Tf = 1.80 ~ 4.08
	TM	6.70	6.28	6.62	6.53	6.28		
φ 5.5	TS	1.00	0.80	0.85	0.88	1.00	5.600	Tf = 1.50 ~ 3.64
	TM	5.73	5.60	5.82	5.72	5.60		

※ TS : Installation torque TM : Stripping torque Drive-to-strip torque ratio (=TM min. / TS max.)

2. Breaking torque

Unit : N · m

Pilot hole dia.	Tightening torque	Actual breaking torque		Average	Loosening torque ratio
		Sample 1	Sample 2		
φ 5.1	3.0	2.60	2.50	2.55	85.0%
φ 5.2	3.0	2.20	2.20	2.20	73.3%
φ 5.3	3.0	1.90	2.10	2.00	66.7%
φ 5.4	3.0	1.90	1.90	1.90	63.3%
φ 5.5	3.0	1.80	1.80	1.80	60.0%

3. Load carrying capability

Unit : N

Workpiece	Upper : Pilot hole dia. Lower : Holding power				
	φ 5.1	φ 5.2	φ 5.3	φ 5.4	φ 5.5
PP+G30%	7,310	6,675	6,375	6,075	5,155

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